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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,868	06/05/2000	Gordon Caruk	0100.0000430	7484
23418	7590	07/14/2004	EXAMINER	
VEDDER PRICE KAUFMAN & KAMMHOLZ 222 N. LASALLE STREET CHICAGO, IL 60601			KING, JUSTIN	
		ART UNIT	PAPER NUMBER	
		2111		

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/586,868	CARUK ET AL. <i>S</i>	
	Examiner	Art Unit	
	Justin I. King	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 10 May 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-43 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 40 is/are allowed.

6) Claim(s) 1-6, 13, 15, 18-39 and 41-43 is/are rejected.

7) Claim(s) 7-12, 14, 16-17 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 6/5/00 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, Claim 41's last limitation which states that the selector circuit is operatively coupled to the input buffer to provide the **first internal signal from the first internal signal path to the first external signal path** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 41-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification at the time the application was filed. Claim 41's last limitation which states that the selector circuit is operatively coupled to the input buffer to provide the **first internal signal from the first internal signal path to the first external signal path** is not in the written description. As illustrated in the figure 5, the input buffer (structure 166) does not

transmit the internal signals to the first external signal path/external circuit. Claims 42-43 are rejected because they incorporate claim 41's limitations.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 21-23 and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Melo et al. (U.S. Patent No 6,040,845).

Referring to claim 21: Melo discloses an internal circuit (figure 1, structure 12) receiving a bus bridge signal from an internal bus bridge (figure 1, structure 14), and an internal I/O circuit (figure 1, structure 28) arbitrating and controlling the signals from any external circuit (figure 1, structures 32a and 302b) from reaching the internal circuit; thus, Melo's internal I/O circuit preventing signals from any external circuit from reaching the internal circuit. Hence, claim is anticipated by Melo.

Referring to claim 22: Melo discloses that the external circuit (figure 2, structure 46) receives the bus bridge signal from the internal bus bridge; and the external circuit reflects the bus bridge signal to the internal I/O circuit (figure 2, structure 40).

Referring to claim 23: Melo discloses that the bus bridge has to arbitrate between the graphic signals and the peripheral master signals; thus, the signals been arbitrated and selected is the internal circuit signal, and therefore the bus receives an internal circuit signal from the internal circuit and selects one of the internal circuit signal and the external circuit. Melo further discloses that the internal I/O circuit receives an external circuit signal from the external circuit (AGP), and the bus bridge also receives the external circuit signal once the arbiter receives and selects the signals.

Referring to claim 25: Melo's internal circuit does not have input buffer.

Referring to claim 26: Melo discloses the PCI bus/protocol.

Referring to claim 27: Melo discloses the AGP bus/protocol.

3. Claims 21-23, 25-27, 29-33, and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Brickford et al. (U.S. Patent No. 6,141,021).

Referring to claim 21: Brickford discloses an internal circuit (figure 1, structure 118) receiving a bus bridge signal from an internal bus bridge (figure 3, combined structures of 114, 124, and 110), and an internal I/O circuit (figure 1, structure 124) arbitrating and controlling the signals from any external circuit (figure 1, structure 120) from reaching the internal circuit; thus, Brickford's internal I/O circuit preventing signals from any external circuit from reaching the internal circuit. Hence, claim is anticipated by Brickford.

Referring to claim 22: Brickford discloses that the external circuit (figure 3, structure 120) receives the bus bridge signal from the internal bus bridge (figure 3, structure 114); and the external circuit reflects the bus bridge signal to the internal I/O circuit (figure 3, structure 124).

Referring to claim 23: Brickford discloses that the bus bridge receiving an internal circuit signal from the internal circuit and an external circuit signal, and selecting one of the internal circuit signal and the external circuit signal; the internal I/O circuit receiving an external circuit signal from the external circuit (figure 3).

Referring to claim 25: Claim 25 is rejected over Brickford as stated above; furthermore, Brickford does not disclose any input buffer.

Referring to claim 26: Brickford discloses a PCI bus protocol (figures 1 and 2).

Referring to claim 27: Brickford discloses an AGP bus protocol (figure 3).

Referring to claim 29: Brickford discloses a computer system including a processing unit coupled to a processor bus, a memory unit coupled to a memory bus (figures 1 and 2), an integrated bus bridge graphics unit (figure 3, combined structures of 114, 124, and 110), coupled to the memory bus and further operably coupled to provide a signal to an external graphic bus (figure 3, the path between structure 122 and the combined structures of 114, 124, and 110), and an internal circuit (figure 3, structure 118) operably configured to avoid signals from the external graphics bus.

Referring to claim 30: Brickford discloses that the integrated bus bridge graphics unit is further operably coupled to receive a signal from the external graphics bus via an internal I/O circuit (figure 3, structure 124).

Referring to claims 31-33: Brickford's internal I/O circuit is to select the graphic signal communication from either one of the internal circuit or external circuit. Thus, Brickford discloses that the integrated bus bridge unit is further configurable to select and to provide a

signal to one of the internal circuit and the external graphics bus, and is further operably configured to isolate the internal circuit from an external graphic bus signal (figure 3).

Referring to claim 35: Brickford does not disclose any input buffer.

Referring to claim 36: It is the communication's purpose to provide signals uncorrupted by transmission line effects.

Referring to claim 37: Brickford discloses a PCI bus protocol (figures 1 and 2).

Referring to claim 38: Brickford discloses an AGP bus protocol (figure 3).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lane et al. (U.S. Patent No. 5,621,900) in view of Kubota (U.S. Patent No. 5,633,599) or Chen et al. (U.S. Patent No. 5,850,530).

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Referring to claim 1: Lane discloses a first internal circuit (figure 1, structure 104) to provide a first internal signal via a first internal signal path (figure 1, structure 101), and a selector circuit (figure 1, structure 107) coupled to the first internal circuit via the first internal signal path, the selector circuit operable to select either the first internal signal or the first external signal. Lane does not explicitly disclose an input buffer for the bridge. Kubota discloses a circuit design with a buffer controlled by a selector (figure 4A). Chen discloses that it is known to equip the input buffer in the bridge (figures 1-2). Chen discloses that it is known to equip the input buffer to reduce the RETRY signal (columns 1-2).

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Kubota's teaching and the input buffer onto Lane because Kubota teaches one to enhance the bridge's functionality and performance by I/O buffers, and to adapt Chen's bridge input buffer onto Lane because it can reduce the number of RETRY control signals, which will reduce the number of the arbitration attempts.

9. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable by Melo in view of Kubota or Chen.

Referring to claim 1: Melo discloses a first internal circuit (figure 1, structure 12) operable to provide a first internal signal via a first internal signal path (figure 1, structure CPU bus), a selector circuit (figure 1, structure 14) coupled to the first internal circuit via the first internal signal path, and the input buffer, the selector circuit operable to select either the first internal signal or the first external signal. Melo does not explicitly disclose an input buffer. Kubota discloses a circuit design with a buffer controlled by a selector (figure 4A). Chen

discloses that it is known to equip the input buffer in the bridge (figures 1-2). Chen discloses that it is known to equip the input buffer to reduce the RETRY signal (columns 1-2).

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Kubota's teaching and the input buffer onto Melo because Kubota teaches one to enhance the bridge's functionality and performance by I/O buffers and to adapt Chen's bridge input buffer onto Melo because it can reduce the number of RETRY control signals, which will reduce the number of the arbitration attempts.

10. Claims 1-5, 13, 15, 18-20, 24, 34, 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brickford in view of Kubota or Chen.

Referring to claim 1: Brickford discloses a first internal circuit (figure 3, structure 118) operable to provide a first internal signal via a first internal signal path (figure 3, path between the structure 118 and the combined structures of 124, 110, and 114), receiving a first external signal via a first external signal path (figure 3, path between the structure 122 and the combined structures of 124, 110, and 114), a selector circuit (figure 3, structure 124) coupled to the first internal circuit via the first internal path, and to select either the first internal signal or the first external signal.

Brickford does not explicitly disclose an input buffer, but the I/O buffer is a well-known practice in the computer art; furthermore, Kubota discloses a circuit design with a buffer controlled by a selector (figure 4A). Chen discloses that it is known to equip the input buffer in the bridge (figures 1-2). Chen discloses that it is known to equip the input buffer to reduce the RETRY signal (columns 1-2). Hence, it would have been obvious to one having ordinary skill in

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the computer art at the time Applicant made the invention to adapt Kubota's teaching and the input buffer onto Brickford because Kubota teaches one to enhance the bridge's functionality and performance by I/O buffers, and to adapt Chen's bridge input buffer onto Brickford because it can reduce the number of RETRY control signals, which will reduce the number of the arbitration attempts.

Referring to claim 2: Brickford discloses an output buffer (figure 6, structure 170) to receive a second internal signal (the signal from the AGP controller). Although Brickford does not explicitly disclose a separate second internal signal path for conveying signals into the output buffer, neither Brickford explicitly discloses the output buffer using the same first external signal path to transmit signals out, the court has held that duplication of the working parts of a device and forming in one piece an article which has formerly been formed in two pieces involve only routine skill in the art (St. Regis Paper Co. v. Bemis Co., 193 USPQ 8 and Howarde v. Detroit Stove Works, 150 U.S. 164). Such that it only takes routine skill in the computer art to add an additional internal signal path and to integrate the external output path and external input path into one external path.

Referring to claim 3: Claim 3 is rejected over Brickford as stated above; furthermore, the Brickford's system is inherently operable to propagate graphic signal with a common protocol.

Referring to claim 4: Claim 4 is rejected over Brickford as stated above; furthermore, Brickford discloses a PCI bus protocol (figures 1 and 2).

Referring to claim 5: Claim 5 is rejected over Brickford as stated above; furthermore, Brickford discloses an AGP bus protocol (figure 3).

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Referring to claim 13: Claim 13 is rejected over Brickford as stated above; furthermore, the circuit is inherent to have a bus interface since it has to connect to a bus for conveying graphic signals.

Referring to claim 15: Claim 15 is rejected over Brickford as the argument for claim 2 stated above.

Referring to claim 18: It is the communication's purpose to provide signals uncorrupted by transmission line effects.

Referring to claim 19: Claim 19 is rejected over Brickford as stated above; furthermore, since the input buffer is meant to convey the signals to the AGP controller rather to the on-chip graphic circuit, it is said that since the input buffer is inoperable to provide the external signal from the external circuit to the first internal circuit.

Referring to claim 20: Claim 20 is rejected over Brickford as the argument for claim 19 stated above; furthermore, the output buffer is an internal buffer designed for conveying the internal signal to the external circuit, therefore, it is said that the output buffer is inoperable to provide the first external signal from the first external signal path to the first internal circuit.

Referring to claim 24: Claim 24 is rejected over Brickford as stated above; furthermore, an "Official Notice" is taken on the following: Although Brickford does not explicitly disclose multiplexing as the selecting mean, the multiplexing is a well-known selecting practice in the computer art.

Referring to claim 34: Brickford discloses that the integrated bus bridge isolates the external signal from the internal circuit (figure 1), but Brickford does not explicitly disclose an input buffer for receiving the external signal. Kubota discloses a circuit design with a buffer

controlled by a selector (figure 4A). Chen discloses that it is known to equip the input buffer in the bridge (figures 1-2). Chen discloses that it is known to equip the input buffer to reduce the RETRY signal (columns 1-2). Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Kubota's teaching and the input buffer onto Brickford because Kubota teaches one to enhance the bridge's functionality and performance by I/O buffers, and to adapt Chen's bridge input buffer onto Brickford because it can reduce the number of RETRY control signals, which will reduce the number of the arbitration attempts.

11. Claims 6, 28, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brickford in view of Applicant's admitted prior art the NGP protocol or Colton et al. (U.S. Patent No. 4,529,840). Brickford does not disclose the NGP protocol. Both Applicant's disclosed prior art and Colton disclose that the NGP is a well-known industrial practice as an alternative to AGP and PCI at the time applicant made the invention. Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt NGP onto Brickford because NGP is a known alternative to the AGP and PCI in designing the computer structure.

Response to Arguments

12. In responding to Applicant's argument on the rejection under 35 U.S.C. 112, first paragraph (Remark, pages 9-10): Applicant argues that the specification does support the claim limitation "to receive the first internal signal from the first internal signal path". Examiner has

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re-drafted the rejection to further clarify the rejection. It is the limitation of “to provide the **first internal signal from the first internal signal path to the first external signal path**”, which is not enabled or disclosed from the specification.

13. In responding to Applicant’s argument on the input buffer: A set of rejections is herein provided.

14. In responding to Applicant’s argument on rejection based on Applicant’s own disclosure (Remark, page 16, paragraph 1): The disclosure discloses the commonly known practice and protocol NGP as a prior art. It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Allowable Subject Matter

15. Claims 7-12, 14, 16-17, and 40 contain allowable subject matter, and claim 40 is allowed.

16. The following is a statement of reasons for the indication of allowable subject matter:

Referring to claim 7: A configurable AGP interface circuit as structurally illustrated in figures 4 and 5 is structured to include a dedicated output buffer for outputting the internal signal to the add-in AGP card and this internal output signal does not go through the select circuit. The circuit is constructed in the structuring arrangement as the followings; a first internal circuit operable to provide a first internal signal via a first internal signal path; an input buffer operable

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to receive a first external signal via an first external signal path; and a selector circuit coupled to the first internal circuit via the first internal signal path, and to the input buffer, the selector circuit operable to select either the first internal signal or the first external signal to provide a selected signal; and an output buffer operative to receive a second internal signal via a second internal signal path and to provide the second internal signal via the first external signal path; and a second internal circuit operable to provide the second internal signal via the second internal signal path and to receive the selected signal via a third internal signal path, the selector circuit inoperable to receive the second internal signal; and the second internal circuit is operable to provide the second internal signal via the second internal signal path to both the first internal circuit and the output buffer.

Referring to claims 8-12 and 14: Claims are allowed because they incorporate the allowable subject matter from claim 7.

Referring to claim 16: A configurable AGP interface circuit as structurally illustrated in figures 4 and 5 is structured to include a dedicated output buffer for outputting the internal signal to the add-in AGP card and this internal output signal does not go through the select circuit. The circuit is constructed in the structuring arrangement as the followings; a configurable interface circuit comprising: a first internal circuit operable to provide a first internal signal via a first internal signal path; an input buffer operable to receive a first external signal via an first external signal path; and a selector circuit coupled to the first internal circuit via the first internal signal path, and to the input buffer, the selector circuit operable to select either the first internal signal or the first external signal to provide a selected signal; a bus bridge, comprising a bus interface, operable to provide a second internal signal to the first internal circuit via a second internal

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signal path and to receive the selected signal via a third internal signal path, and an output buffer operative to receive the second internal signal via the second internal signal path and to provide the second internal signal via the first external signal path such that the input buffer and the selector circuit are inoperable to receive the second internal signal.

Referring to claim 17: Claim is allowed because it incorporates the allowable subject matter from claim 16.

Referring to claim 40: A configurable AGP interface circuit as structurally illustrated in figures 4 and 5 is structured to include a dedicated output buffer for outputting the internal signal to the add-in AGP card and this internal output signal does not go through the select circuit. The circuit is constructed in the structuring arrangement as the followings; an internal graphics controller operable to provide a first internal signal via a first internal signal path; an input buffer operable to receive a first external signal via an first external signal path; a selector circuit coupled to the internal graphics controller via the first internal sigh path and to the input buffer, the selector circuit operable to select either the first internal signal or the first external signal to provide a selected signal; a bus bridge comprising a bus interface operable to provide a second internal signal to the internal graphics controller via a second internal signal path and to receive the selected signal via a third internal signal path; and an output buffer operative to receive the second internal signal via the second internal signal path and to provide the second internal signal via the first external signal path such that the input buffer and the selector circuit are inoperable to receive the second internal signal.

17. Claims 7-12 and 14 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action; and claims 7-

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12 and 14 are objected to as being dependent upon a rejected base claim, Applicant should rewrite them in independent form including all of the limitations of the base claim and any intervening claims.

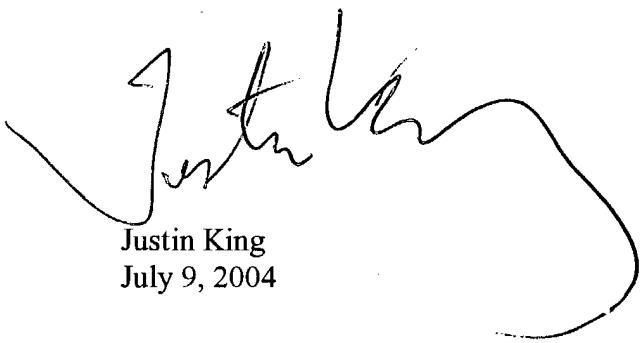
18. Claims 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin I. King whose telephone number is 703-305-4571. The examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703-308-3110. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Justin King
July 9, 2004


XUAN M. THAI
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TC 2100